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ABSTRACT

Based on the principles of quality and productivity improvement, Central Virginia Community College's (CVCC's) Quality First initiative is designed to provide continuous quality training to existing business, government, and educational institutions and enhance regional development activities to attract new business and jobs. Since its inception in 1989, the training initiative has resulted in measurable improvements in college practices in the Virginia Community College System; other educational institutions in the local area and participating in the local economic development organization, Region 2000; health care delivery; city government and administration; and local business and industry. Under the program, training is delivered to groups of up to five teams usually from different organizations. Teams, composed of four to six people each, meet at the college every other week for eight sessions, six of which are 8-hour workshops in which participants learn quality skills, discuss concepts, and provide status reports of their ongoing project work. The program required an initial start-up investment of $50,000 for equipment, training, program research, and facilities improvement, but is currently a self-sustaining program, charging $2,000 in tuition per team. To date, CVCC has trained 142 quality improvement teams from over 40 organizations. Almost without exception, Quality First cu omers have expressed high satisfaction with both content and prese. ation. A report of experiences from one program participant, the City of Lynchburg, is included. (TGI)

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Central Virginia Community College and Virginia's Region 2000: A Quality First Partnership for a Community of Excellence.

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Paper presented at the Team Building for Quality Conference sponsored by the National Initiative for Leadership and Instructional Effectiveness (NILIE)

(Raleigh, NC, October 14-17, 1995)

JC 950 552

National Initiative for Leadership and Institutional Effectiveness

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Team Building for Quality Conference

October 16, 1995

Title of Program

Central Virginia Community College and Virginia's Region 2000: A Quality First Partnership for a Community of Excellence.

Who We Are:

"The Belle Hops"
Central Virginia Community College
3506 Wards Road
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Dr. Belle Wheelan	CVCC President
Robert Staples	CVCC Coordinator of Quality Management Programs and Quality First Facilitator
Jeff Taylor	Program Director, Virginia's Region 2000
Ray Booth	Director, Lynchburg Department of Public Works (A Quality First customer)

About CVCC

LOCATION and SERVICE AREA

Located in the foothills of the Blue Ridge Mountains in the City of Lynchburg

One of 23 colleges in the VCCS.

Ranks 9 or 10 in terms of size.

Serves the counties of Amherst, Appomattox, Bedford and Campbell, and the cities of Bedford and Lynchburg.

Serves approximately 4000 people in credit courses through three academic divisions, and an additional 4000 in non-credit courses through Continuing Education and B.I.G.

DEMOGRAPHICS

53% female
67% part-time
15% minority
51% evening

30% developmental, about equal distribution in academic transfer and occupational-technical education curricula.

PHYSICAL PLANT

140 acres
4 academic buildings (250,000 sq. ft.), with a new 36,912 sq. ft. building on the way.

FUNDING

State funded (current tuition and fees: $46.65 and $10.00 + $1.00 per credit tech fee).

About CVCC Instructional Programs

ACADEMIC TRANSFER

Engineering
Education
General Studies
Liberal Arts
Science
Business Administration

OCCUPATIONAL-TECHNICAL

Machine Tool
Electricity
Electronics
Office Systems Technology
CIS
Communication
Art
Early Childhood Education
Medical Laboratory Technologist
Respiratory Therapy
Radiation Technology

CONTINUING EDUCATION

Pathfinders
College for Living
Extended Learning Institute (ELI)
Driver's Improvement
Motorcycle Safety
Virginia Safety Action Program

BUSINESS/INDUSTRY/GOVERNMENT

Zenger Miller Supervisory Training Programs
Total Quality Management Programs
1) Quality First Programs
2) ISO-9000 Training and Auditing Services
3) Statistical Process Control Courses
4) Introduction to T.Q.M. processes
Apprenticeships and Co-Op programs

PARTNERSHIPS

Old Dominion University
Articulation Agreements/Scholarships
CVCC Foundation--$1.5 million
Centra Health/Medical Laboratory Program
Local School Divisions
1) Dual Enrollment--125 FTES
2) Tech Prep--5 areas (Engr., ECE, Bus. Admin., Marketing)

PROJECTS

Faculty computers and LAN
Intergenerational Center
ETF funds
Renovation of Student Center
Merritt Building

About Quality First

Our Quality First Customers: Our external customers include every person in our community, but particularly those in relationships with organizations in business, industry, government and education. Our internal customers include all those associated with the design, execution and participation in the Quality First process.

Our Quality First Vision: Provide world-class instruction and training which facilitates continuous improvement of our customers' products and services.

Our Quality First Mission: Design, execute and continuously improve education, training, consulting and administrative services resulting in improved customers' systems, processes and human resource capabilities.

Our Quality First Strategy: Recognizing that each customer is special, we seek first to understand customer-specific needs and specifications and then to create and execute an

educational plan with outcomes measured against those requirements.

Our Uniqueness: We were the first Community College in Virginia to implement a training program for continuous quality improvement in partnership with a regional economic development coalition.

Where We Got the Idea for Quality First

The CVCC/Region 2000 Quality First program is based upon the quality and productivity improvement principles, concepts and practices elaborated by Dr. W. Edwards Deming. The original model for CVCC's version of Quality First was *The Transformation of American Industry* (TAI). This program was endorsed by the American Association of Community & Junior Colleges and developed for the Community College National Program. It was coordinated by the Jackson (Michigan) Community College, under the leadership of David and Carole Schwinn, the two people who formally introduced CVCC to Quality First in 1989 and conducted CVCC's first two classes, beginning in March, 1990.

What We've Accomplished

Quality First was designed primarily to meet two community related customer-specified goals:

1) To serve existing businesses, industries, governments and educational institutions by providing training demanded by management and workforce in continuous quality and productivity improvement.

2) To enhance regional economic development activities to attract new business (and jobs) by being on the "leading edge" of training for continuous quality and productivity improvement.

Quality First education is value-added:

- Team members learn new problem-solving skills/tools and adopt teamwork as a prime requisite for system/process improvement.

- The team's support system (managers, supervisors, colleagues, etc.) learn new, cohesive relationships with team members.

- Executive management and the organization become more effective and efficient through development of all human resources.

What Happened

In 1987 the President of CVCC, Dr. Johnnie Merritt, held a series of "Business Roundtables" in which he invited community leaders to come to dinner meetings at CVCC to describe how CVCC might better meet their training needs. A need for training in quality/productivity improvement was identified and the seeds of Quality First were planted.

About that same time, a regional economic development organization (later to be known as Virginia's Region 2000) was in its infancy. A community initiative emerged, seed money obtained, and the search for a suitable program began.

That search lead to Jackson Community College in Michigan and to the TAI program. In the Fall of 1988 a pilot team from CVCC enrolled in a TAI program in Roxboro, North Carolina, and as a consequence, recommended the development of a similar program at CVCC.

In 1989 CVCC hired Jackson's Carole and David Schwinn as consultants to guide CVCC's initial efforts and mentor CVCC's Quality First facilitator. CVCC's Quality First Program was launched in the classroom in March 1990 and has run continuously since then.

The impact of Quality First training was demonstrated within several months of launch by several teams who reported significant measurable operating improvements and increased satisfaction by internal and external customers. Further examples of Quality First's impact over the five and a half years since it's beginning are given below:

In the Virginia Community College System ...

1) CVCC has sent 5 cross-functional teams through Quality First training in Lynchburg. These teams ...

   - o increased student retention
   - o enhanced safety and security procedures
   - o improved course scheduling and registration processes

- o improved access to professional development of faculty and staff

- o improved community awareness of community college resources and educational opportunities.

2) Danville Community College removed access barriers encountered by handicapped students on their campus.

3) Blue Ridge Community College improved service to students and sustained or increased tuition revenues by minimizing course cancellations.

4) New River Community College improved information transfer and communication practices in the Continuing Education Office.

5) Southside Community College developed plans to improve access to education/training in their rural service area.

6) J. Sargeant Reynolds Community College improved their scheduling and registration processes to reduce the number of "no shows" in short courses/seminars.

7) Tidewater Community College streamlined it's Facilities Maintenance Management System.

8) Thomas Nelson Community College improved it's Scheduling/Building Occupancy planning.

Other education/training institutions in Virginia's Region 2000 ...

1) Central Virginia Training Center, a residential facility for the severely retarded, adopted new policies allowing staff "peer groups" to set their own work schedules. Absenteeism was reduced and the Center, which employees over 2000 people, saved $1.3 million dollars in overtime costs the first year after the change. This initial Quality First team approach has become a national and commonwealth model adopted by other facilities.

2) A team from Lynchburg Public Schools developed and implemented a plan to improve community awareness of the Tech Prep Program.

In health care delivery ...

1) Lynchburg General Hospital reduced patient waiting time in their Emergency Ward. That success was instrumental in Centra Health Corporation's, (the hospital's parent organization) development of their own internal Continuous Quality Improvement (CQI) system.

In city government and administration ...

1) Lynchburg City improved citizen access to Social Services; improved safety in the Department of Public Works; improved water purification systems and waste treatment; improved supervision and services at the Lynchburg Regional Airport; improved street and highway inspection procedures; improved scheduling in the Fire Department; created plans and improvements in the Emergency 911 system; recommended "citizen satisfaction" procedures and cost containment opportunities in a variety of administrative applications. Some of these projects are discussed in more detail in a later section of this article.

2) Bedford City Department Heads improved inter-departmental communications and developed instruments to assess citizen satisfaction with a variety of community services.

Examples in local businesses and industries ...

1) Simplimatic Engineering Company improved several engineering, administrative and manufacturing processes

2) Ericsson, Inc. simplified operations, enhanced coordination and improved manufacturing processes.

3) Several Babcock & Wilcox businesses "streamlined" key processes.

4) Wiley & Wilson, an architectural, engineering and planning corporation, enhanced internal and external coordination and communication

in project plans and drawings and demonstrated efficiencies in CADD utilization.

5) First Colony Life Insurance Company improved accuracy in policy writing and correspondence with brokers and agents resulting in happier internal and external customers

6) Progress Printing Company improved pre-press processes and customer relationships through improved scheduling.

7) Buffalo Air Handling Company improved the marketing/design/manufacturing/installation interfaces.

8) R.R. Donnelley reduced paper waste and improved resource utilization.

9) Virginia Fibre Corporation improved operations in the wood yard and improved waste treatment procedures to extend the life of landfills.

10) Delta Star Corporation improved electrical transformer manufacturing operations.

11) Belvac Production Machinery improved systems to elicit employee quality improvement ideas and improved quality of several processes in their manufacturing operations.

Timetable

A group of up to five teams (usually from different organizations) take their Quality First training together in a "Track". Each team is composed of 4-6 people.

Teams meet at the college every other week for eight sessions, so that the program extends over a 14-16 week period. Six of these sessions are 8-hour workshops in which teams meet together to learn skills, discuss concepts and provide status reports of their on-going project work. The other two sessions are consultations between the instructor and individual teams about specifics of their work.

The Quality First program concludes in CVCC's auditorium with a team's presentation of it's quality improvement project report to its management. This is followed by a Poster Session and a reception "celebration" at the College.

Five Continuing Education Units (CEU's) are awarded.

What It Cost

The initial out-of-pocket 1987-89 start-up investment in hardware and software, program research, training-the-trainer and facilities improvements was approximately $50,000. Subsequent costs for purchase of training resources and program modifications/upgrades approximates several thousand dollars annually. Personnel salaries and support costs are additional.

Original "seed money" was obtained from Virginia's Region 2000 and the Center for Innovative Technology (CIT).

Quality First is now self-sustaining at a tuition rate of $2000/team of 4-6 people in a Track comprised of a minimum of 3 teams. Quality First has not had a tuition increase in the five and one half years of it's existence.

Evaluation of Group and Process

To-date CVCC has trained 142 quality improvement teams (over 800 people) from over 40 organizations. Many organizations have sent multiple teams to the program. Almost without exception, Quality First customers express high satisfaction with both content and presentation on final program Evaluation Forms.

A Quality First Implementation Schedule

Q1-8 wks

Meet with Customer Executives to Present Q1 Overview and discuss:

Purpose - Resources - Outcomes/Expectations - Measurements

Q1-6 wks

Meet with Customer "Quality Council" and "Significant Others" to tour Customer Facilities and to discuss:

Purpose - Teams - Resources - Projects - Outcomes & Expectations - Support - Measurements

Q1-3 wks — Meet with Customer-Selected Teams to discuss:

Purpose - Participation - Projects - Outcomes & Expectations (Status Reporting) - Resources - Track Scheduling - Workshop "Mechanics"

Conduct Q1 — See Representative Topic Outline, below.

Workshop Presentations and Consulting during the course of a semester ... Meet with teams "every other week".

Q1 + 2 wks — Meet with Customer Representatives to Follow-up, Evaluate Experience and Plan for Continuous Improvement, Education and Training

Lessons Learned - "Spin-offs" and Extensions - What Next? - Training Opportunities

A Representative Quality First Topic Outline

Session 1: **MISSION, MANAGEMENT & MEASUREMENT**

- Alignment: Values-Vision-Missions-Projects
- Paradigms: Understanding Our Decision Rules
- Barker's Paradigm Shift Question: What Could "Set You Back to Zero"?
- Dr. Deming and "Profound Knowledge" ... understanding (A) Systems; (B) Variation; (C) Information vs Knowledge; (D) Psychology
- Fourteen Points - Obligations of Management

Session 2: **TEAMS, TALENTS & TOOLS**

- Becoming Paradigm Pioneers
- Team Development Expectations & Strategies
- Team Consensus Decision-Making
- Team Meetings: "Mining Group Gold"
- Continuous Improvement: A PDSA Overview
- Tools: Generating and Prioritizing Ideas
- Tools: Flowcharting to Visualize Relationships
- Tools: Root Cause Analysis

Session 3: **CONSULTING**

Session 4: **QUALITY BY THE NUMBERS: INTRODUCTION TO SPC**

- o Quality by the Numbers: Inspect vs Prevent
- o PDCA: A Practical Problem Solving Process for Continuous Improvement
- o Understanding Variation: A Continuous Improvement Process Role Play
- o Statistics: What Improvement Looks Like
- o Data-Based Improvement Strategies

Session 5: **COMMUNICATION & CONTROL**

- o Communicating & Implementing Change
- o Case Studies: It Really Works!
- o Leadership and the New Science

Session 6: **CONSULTING**

Session 7: **DISEASES & OBSTACLES / QUALITY & THE CONSUMER**

- o A Final Look at Dr. Deming:
  - (A) Diseases and Obstacles to Productivity;
  - (B) Quality in Service Organizations; and
  - (C) Quality and the Consumer
- o "Yeah"/"Boo" Stories
- o Preparing & Executing Convincing Presentations
- o The Future: The Power of Vision

Session 8: **REPORTS AND CELEBRATIONS**

Comments from a "Quality First" Customer - The City of Lynchburg

Over the past 5 years, the City of Lynchburg has supported the Quality First Program at Central Virginia Community College through the participation of 13 employee teams. The current fall semester includes our 14th team which has just begun the learning process. Of these 14 teams, the Department of Public Works has contributed 11 with the Fire Department and Human Services Department providing the remaining three.

Quality is defined as continuous improvement of systems to provide products and services which result in customer loyalty now and in the future. While government has not traditionally been thought of as customer focused, the City had the wisdom several years ago to realize that both our existence and our survival would be dependent on what our customers (taxpayers) believed about both the quality and quantity of the services they receive. Our City Manager at

that time encouraged and challenged departments to become proactive in initiating systems improvements wherein we could control our own destiny rather than waiting for change to happen to us and finding ourselves in a position of being reactive to not only declining resources but increasing customer expectations.

The first department to step forward to respond to this challenge was the Department of Human Services along with its Director as a participant, a team was created to take the City's maiden voyage on this unchartered sea. Human Services' project was to improve the Financial Services intake system as measured by increasing the number of clients interviewed daily while reducing the length of waiting time without sacrificing the quality of service. Not only did their project address these objectives, Human Services also developed its own internal resource who took responsibilities for teaching other staff the concept and principles of a continuous improvement process.

Because of the very positive experience of Human Services, and because Public Works takes a back seat to no one, others of us stepped out to test the waters. Let me take just a few minutes to tell you about the Public Works experience with Quality First.

Our first team, 'The Public Defenders' examined improvement of the Personal Protection Safety Equipment (PPSE) system by addressing the need for standards development, improvement in quality and quantity of safety training, supervisory accountability for work site safety, reinforcement of PPSE use, and a process to monitor and refine the process on an annual basis. I am pleased to tell you that five years later, our PPSE safety program has continued and become stronger and stronger with each year's assessment and improvement.

The first experience was so positive, the Public Works Department, in conjunction with the Personnel Department, hired a Human Resource intern. This intern developed Quality Teams within the Public Works Department involving large numbers of lower level employees. This program has been extremely successful and has lead to the City of Lynchburg receiving the Virginia State award for training from the Virginia Chapter of International Personnel Management Association (IPMA).

Other Quality First projects have included:

'The Honey Dippers' -- To improve the sludge removal system at the Wastewater Treatment Plan. Outcomes of this project included increased plant control,

minimization of operating and capital costs, increased protection of the environment, and ultimately reduced cost to our utility customers.

'The Flow Monitors' -- To improve the after-hours customer service system for water distribution and wastewater collection. The scope of this project focused on 1) customer service communication and follow-up, 2) clear identification of non-emergency investigations and scheduling of a regular hours response, and 3) concise, accurate documentation of the complaint and action taken.

'Doing Our Duty' -- Building on the work of The Flow Monitors some three years later, this team undertook the evaluation of the after-hours emergency call duty process and recommended cost reduction options without compromising continuous quality service. Recommendations from this team addressed public education, employee education, alternative work scheduling, integration of services, and improved follow-up with customers.

The 'Fleet Maintenance' Team, began with the objective of evaluating the structure of the Automotive Shop and Central Warehouse shifts and made a recommendation regarding the assignment of personnel and work to each shift. Through the initial learning of this team, as well as some developing and maturing of our customer service approach, this team expanded its membership and focus through a Phase II mission of improving all phases of Fleet Maintenance Service Delivery with the focus on customer satisfaction.

Within our Engineering Division, two projects have resulted 1) examination of dedicating a construction inspector to coordinate excavation permits and 2) exploration of ways to use GIS survey information for some projects in lieu of traditional survey work.

Our newest division, the Solid Waste Division, undertook the project of improving customer service within the waste management system as indicated by feedback received from customer surveys.

While this brief summation does not cover every project Public Works has been involved in, it does highlight the diversity of services that we have responsibility for delivering and demonstrates that any issue or need can be analyzed and improvement can be achieved.

One of the barriers that government has to overcome in thinking about a quality improvement process is the fact that we don't produce a product -- we deliver services. Often there is a natural block that is created when we think very narrowly about this difference. The reality is, however, that customer service is not that different between the private and public sector, regardless of whether or not a product is the result. The need to provide cost efficient and effective customer service has to be a universal business and government objective. As government is drawn into the arena of the private sector by having to compete to retain the services we deliver, we are compelled to think and act more like the private sector with the realization that our success or failure is dependent on our customers.

In addition to being able to identify and measure continuous improvement in service delivery, you might ask what are some of the other benefits of the Quality First process? Here are a few of the things that come to mind:

- It empowers employees to take responsibility for improving the systems that they work in and are impacted by day after day.
- It draws on the collective brainpower of the team as they each share their individual perspectives and contribute ideas.
- It affords employees the opportunity to work with peers who may not be a part of their normal work group.
- Employees have the opportunity to be instructed and trained with other businesses and organizations and can gain insight into ways that they are alike as well as different.
- Promotes team building through participative problem solving.
- Helps employees to identify with and relate to organization goals.

The experience of Lynchburg City government with this program has been extremely positive. We believe that the workplace demands of the future will require us to work smarter and our ongoing participation in the Quality First program at CVCC will better equip us to respond to that challenge. Virginia's Region 2000 is committed to a partnership for communities of excellence and Lynchburg is actively engaged in helping to meet that objective.

I. What is VIRGINIA'S REGION 2000
   A. Public/ Private Partnership formed in 1988
   B. The Seven Communities
   C. Reasons for Forming

II. The Goals
   A. Public Awareness/Grassroots Support
   B. Existing Business Support
   C. Attracting New Companies
   D. Programs to Achieve Goals Are All Partnerships

III. How Quality 1st Fits In To Our Mission
   A. Achieving Goal #2
   B. What youve heard so far...
   C. Achieving Goal #3, Attracting New Business
   D. Marketing & P.R. (show ad & tape portion)
   E. The ISO 9000 Connection

IV. The Bottom Line
   A. Job Creation
   B. The Domino Effect

V. Questions